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ABSTRACT

Adolescent offspring of alcoholics have been found to have higher alcohol reinforcement expectancies than do teenagers from nonalcoholic families. In particular, those with a positive family history of alcoholism expect more cognitive and motor enhancement with alcohol consumption. This study examined the alcohol expectancies of 58 matched pairs of young adult males from alcoholic and nonalcoholic families to ascertain whether a similar expectancy pattern exists and the degree to which expectancies can differentiate family history groups. All subjects completed a questionnaire on demographic background; drinking history; personal and family psychiatric history; and past history of medical, drug, and alcohol related life problems. Subjects also completed a shortened version of the Alcohol Expectancy Question. The results indicated that even when individually matched on demographic and drinking pattern variables, men with alcoholic fathers expect slightly more reinforcement from alcohol, particularly in the realm of sexual enhancement, than did peers with no alcoholic family members. The discriminant function analysis using expectancy items as predictors correctly classified 71% of the men from alcoholic facmilies and 85% of men from nonalcoholic families. Theoretical and research implications of these findings are discussed. (Author/NB)

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Alcohol Expectancies in Young Adult Sons of Alcoholics and Controls

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Abstract

Adolescent offspring of alcoholics have been found to have higher alcohol reinforcement expectancies than teens from nonalcoholic families. In particular, those with a positive family history of alcoholism expect more cognitive and motor enhancement with alcohol consumption. The present study examines the alcohol expectancies of 58 matched pairs of young adult males from alcoholic and nonalcoholic families to ascertain whether a similar expectancy pattern exists and the degree to which expectancies can differentiate family history groups. Results indicate that even when individually matched on demographic and drinking pattern variables, men with alcoholic fathers expect slightly more reinforcement from alcohol, particularly in the realm of sexual enhancement, than peers with no alcoholic family members. The discriminant function analysis using expectancy items as predictors correctly classify 71% of men from alcoholic families and 85% of men from nonalcoholic families. Theoretical and research implications of these findings are discussed.

I. Introduction

Alcohol expectancies are those effects which a person anticipates experiencing when drinking (Brown, Goldman, Inn, & Anderson, 1980). Increased expectancies of positive effects of alcohol have been associated with heavier drinking patterns and alcohol related problems in a variety of populations (see Goldman, Brown, & Christiansen, 1987). Among adults higher scores on alcohol expectancy questionnaires have been linked to more frequent and problematic drinking among college students, medical patients and community samples (e.g., Brown, Christiansen, & Goldman, 1987; Connors, O'Farrell, Cutter, & Thompson, 1986, Southwick, Steele, Marlatt and Lindell, 1983). Within the adolescent population, problem drinking high school students and clinical samples of teen alcohol abusers expect more reinforcement from alcohol than non-abusing peers, even when the influence of sociodemographic variables is controlled (Christiansen, & Goldman, Brown, Creamer, & Stetson, 1987). Additionally, elevated expectancies appear to be a risk factor for the onset of problem drinking during teen years (Christiansen, Smith, Roehling & Goldman, 1989; Mann, et al., 1987) and have been associated with poorer prognosis following alcoholism treatment (Brown, 1985).

Although alcohol expectancies are present prior to personal alcohol consumption (e.g., Christiansen & Goldman, 1983), adult expectancies appear to reflect both the pharmacologic impact of the drug and the composite of one's learning experiences (e.g.,

peers, family and the media). Of significance, adolescent expectancies are related to parental drinking patterns as well as personal drinking habits (e.g., Brown, Creamer & Stetson, 1987; Montiero, & Podany, 1986). Brown and associates (Brown, Creamer, & Stetson, 1987) found that among adolescents who have already started drinking those with alcohol abusing parents expect more reinforcement from alcohol, particularly enhancement of cognitive and motor abilities from drinking than adolescents without a parental history of alcohol abuse. The authors speculated that offspring may acquire the expectation of enhanced cognitive and motor functioning through "parents self-report of improved functioning when drinking or by observation of a reduction in withdrawal symptoms when alcohol consumption is resumed" (page 120). However, differences in expectancy scores between adolescent offspring of alcoholics and adolescents without a family history of alcohol abuse may also reflect differences in the teens drinking history (e.g., age of onset of alcohol use, number and type of alcohol related problems) or genetically related differences in response to alcohol.

Alcohol response differences between offspring of alcoholics and peers without a family history of alcoholism have been identified on several biobehavioral domains which may account for the expectancy differences found among these adolescent groups. For example, it has been hypothesized that offspring of alcoholics may be less reactive to alcohol than individuals without a biological vulnerability toward alcoholism (Schuckit,

1987). In several alcohol challenge studies, Schuckit (e.g., Schuckit, 1984; Schuckit, 1987) demonstrated that at a moderate dose of alcohol (.75ml/kg body weight) young adult sons of alcoholics display a decreased intensity of reaction to ethanol. Sons of alcoholics report feeling less intoxicated, display less upper body sway, and differ in serum prolactin and plasma cortisol changes after drinking, relative to carefully matched adult males with no family history of alcoholism (Schuckit, 1988). These subjective and objective differences between males with and without a family history of alcoholism were obtained despite comparable anticipated effects for the drinking session as measured by the Subject High Assessment Scale (SHAS) (Schuckit, Gold & Risch, 1987). The SHAS focuses on anticipated effects (e.g., feeling dizzy, drunk, nauseated) during the experimental drinking session rather than expected effects for alcohol in usual drinking situations. Other researchers have identified differences in mood states (Moss, Yao & Maddock, 1989) and possible cognitive ability differences and neurophysiological deficits (i.e., EEG and P300 changes) in high risk paradigm studies of sons of alcoholic fathers and matched cohorts of sons of nonalcoholics (See Tarter and Edwards, 1988; Begleiter and Porjesz, 1988 for reviews). Thus, offspring from alcohol abusing families may be predisposed to experience certain effects of low to moderate doses of alcohol (e.g., depressant effects) in a slightly less pronounced fashion or identify cognitive and motor impairment with less efficiency than

offspring of nonalcoholics. As a consequence, offspring of alcoholics may develop more positive expectancies regarding alcohol's stimulant or social effects and may come to expect less disruption from the drug on those domains more reflective of physiologic reactivity (e.g., motor functioning, sexual arousal).

Although family history differences in alcohol expectancies have been investigated among adolescent groups comparable in demographics and self-reported drinking history (Brown, et al., 1987), a more precise test of differences in expectancies as a function of family history of alcoholism is an individual match procedure. In this paradigm offspring of alcoholics with more extensive personal drinking history but without abuse or dependence are individually matched with a same sex peer with no family history of alcoholism. The present study uses this individual match procedure to compare the alcohol reinforcement expectations of young adult males with a positive family history for alcoholism (FHP) to young adult males who report no close relative with an alcohol problem (FHN). Two primary hypotheses are investigated: 1) FHP young adult males matched to FHN males on background and drinking variables will expect more reinforcement from alcohol as measured by the Alcohol Expectancy Questionnaire (AEQ). Previous investigation of family history differences in alcohol expectancies among adolescents (i.e., Brown, et al., 1987) indicate that FHP teens expect significantly more cognitive and motor enhancement when drinking than FHN teens. Although the adult version of the AEQ does not have a

specific cognitive and motor enhancement scale scales 1 and 2 of the adult AEQ are most highly correlated with measures of the cognitive and motor enhancement expectancy scale of the adolescent version of the AEQ within a college age sample (Brown, Christiansen & Goldman, 1987); thus, significant differences are expected on these scales, and 2) Since expectancies have been consistently related to drinking patterns and the FHP and FHN males are matched on this domain, these expectancies items will be only moderately effective in differentiating FHP and FHN males.

II. METHODS

Subjects

One hundred sixteen male students and nonacademic staff members from the University of California, San Diego (58 matched pairs) were recruited from a larger study investigating responses to alcohol (see Schuckit, 1988 for details). All participants were caucasian, non-jewish, and between the ages of 18 and 26 years (M=22.18, sd=1.85). Participants reported drinking an average of 8.22 (sd=5.09) days per month and 3.20 (sd=1.42) drinks per occasion. Males were excluded from the study if they met DSM-III or RDC criteria for alcohol or drug abuse or dependence, had chronic medical problems (including regular use of medications), or met criteria for any major psychiatric disorder (e.g., Major Depressive Disorder, Antisocial Personality Disorder). In addition, individuals who drank less than one drink per month in the previous six months were excluded.

Subjects were classified as family history positive for alcoholism (FHP), if their biological father fulfilled the alcoholism criteria as stated above. For each FHP subject, a male with no alcohol problems among family members (Family History Negative; FHN) was selected. Each matched pair was selected to be comparable on dimensions of: age, ethnic background and years of education. FHP and FHN males were also matched on self-reported drinking history in the previous six months using a Quantity-Frequency Index (M=26.72, sd=17.36) and

height to weight ratio. Subsets of these subjects have been involved in reports of other family history differences (e.g., Schuckit, 1987; Schuckit, 1988).

Procedure

Potential subjects were sent a structured questionnaire to obtain information regarding: demographic background, drinking history, personal and family psychiatric history (including alcoholism), and past history of medical, drug, and alcohol related life problems (see Schuckit, 1984 for details). Alcohol related major life problems were defined as: marital separation or divorce due to alcohol; job loss or layoff; school suspension expulsion or voluntary termination because of alcohol; two or more alcohol related arrests; withdrawal symptoms or physical evidence that alcohol had harmed the subject's health. These criteria have been shown to predict future pervasive and persistent alcohol related life problems (Schuckit, 1984; Schuckit, 1989). Drug problems were similarly defined and also included intravenous drug use history. For each FHP male, a FHN male was selected based on the above matching criteria and if both FHP and FHN males independently consented to participate in a three-session experimental alcohol challenge study they were included in the study.

Each individual completed a shortened version of the Alcohol Expectancy Question (AEQ; Goldman, Brown, & Christiansen, in press) at the beginning of one of the alcohol challenge sessions and prior to any alcohol ingestion. The AEQ is a factor

analytically derived self-report measure of personal expectations of six types of alcohol effects associated with moderate drinking: 1) Global positive transformation of experience, 2) Sexual enhancement, 3) Enhanced social and physical pleasure, 4) Increased assertiveness, 5) Relaxation/tension reduction, and 6) Increased arousal and feelings of power (See Brown, Christiansen & Goldman, 1987 for review). Internal consistency estimates (coefficient alphas) for AEQ scales range from .72 to .92, and the scales have been shown to be independent of social desirability and general deviance and stable over 4 to 8 week intervals (Brown, et al., 1987; Christiansen & Brown, 1985). The shortened AEQ version contained only items included in the unit weighted AEQ subscales (N=69) and in an independent sample (N=40) the total score for the shortened version of the AEQ correlated .92 with the standard (120 item) AEQ.

III. RESULTS

To examine differences in alcohol expectancies of young adult males as a function of family history of alcoholism, scores for each of the six expectancy scales of the AEQ were calculated for each subject of the 58 matched pairs. As shown in Table 1, while FHP males obtained slightly higher expectancy scores on 5 of the 6 AEQ scales, paired t-tests indicated a statistically significant difference between groups on only the Sexual Enhancement scale (t ($N=58$) = 3.18, $p<.001$). No significant statistical differences were obtained for other AEQ subscales.

Insert Table 1 about here

To further explore the degree to which alcohol effect expectancies can differentiate FHP and FHN young adult men, a stepwise discriminant function analysis was performed. Since it was hypothesized that groups would differ on AEQ scales most reflective of cognitive and motor impairment, only items from scales 1 and 2 ($N=29$ items), which are most highly correlated with the AEQ-A cognitive and motor impairment scale (Brown et al., 1987), were used as potential predictors. Individual AEQ items constituted the domain of potential predictors of group membership (FHP or FHN) and only subject pairs for whom scores on all AEQ items were available were included in the analysis ($N=112$). AEQ items from scale 2 and scale 1 were sequentially tested for selection for the discriminant function equation on

the basis of an increase in predictability (i.e., until the F test for the regression coefficient no longer exceeded the F for the .01 significance level). A positive response to an item was coded 1 and a negative response was coded -1. The maximum number predictors to be included in the function was set at 10 to provide a 10:1 ratio of subjects to predictors.

Results of the discriminant function analysis, as presented in Table 2, show that two items from scale 2 and eight items from scale 1 were selected for inclusion in the significant discriminant function equation, $X^2(10)=31.32$, $p < .001$, with a Wilk's lambda of .71. Items best differentiating family history groups of males include: "I often feel sexier after I have had a couple of drinks", "I am more romantic when I drink", "I drink when I'm feeling mad", "Alcohol makes me more interesting", "After a few drinks, I feel brave and more capable of fighting", "Drinking helps me get out of a depressed mood", "I feel more coordinated after I drink alcohol", (positive weightings), "If I am feeling restricted in any way, a couple of drinks makes me feel better", "Drinking alone or with one other person makes me feel calm and serene" and "Alcohol makes me worry less" (negative weightings). Consistent with t-test results group centroids indicate that FHP males obtained higher discriminant function scores than FHN males (FHP = .626; FHN = -.626).

Insert Table 2 about here

A classification analysis was next performed to assess the degree to which the AEQ items as defined by the discriminant function scores could predict group membership (FHP versus FHN). Figure 1 displays the discriminant function scores for all subjects. The discriminant classification procedure was able to classify 70.6% of true family history positives with 7.8% below the FHN group centroid, and 84.6% of true family history negatives with 5.8% above the FHP group centroid. The overall correct classification rate of FHP and FHN males was 77.7%.

Insert Figure 1 about here

IV. DISCUSSION

The present investigation found that young adult males with and without a family history of alcoholism when matched on demographic and drinking pattern variables maintain somewhat similar alcohol reinforcement expectancies. Groups differed modestly and in the hypothesized direction in their expectations of alcohol effects as a function of family history of alcoholism. Men with a family history of alcoholism had slightly higher scores on five of the six AEQ scales measuring anticipated reinforcement and significantly elevated expectancy scores on the Sexual Enhancement expectancy scale.

Using discriminant function scores, expectations of alcohol's effects successfully classified 78% of the males in the present study. Young men without a family history of alcoholism were easier to identify on the basis of their alcohol expectancies (correct classification of 85%) than were matched peers with an alcoholic father (correct classification of 71%). Of note, the FHP group had a broader dispersion of discriminant function scores, as might be expected if alcohol related expectancies in part reflect genetically influenced differences.

These data are consistent with previous findings that modest family history differences exist in alcohol expectancies (Brown, et al. 1987; Mann, Chassin, & Sher, 1987) and the subjective experience of alcohol consumption (e.g., Schuckit, 1988; Moss, Yao, & Maddock, 1989). When a given expectancy regarding alcohol effects is present prior to the ingestion of the drug, alcohol

consumption may act to reinforce that expectancy to a greater or lesser degree depending on psychological and subjective response to the drug. It is possible that subtle differences in the experience of alcohol's effects, when repeated over time, may result in differing levels of anticipated reinforcement or negative consequences of the drug use (Goldman, Brown, & Christiansen, 1987). Expectations of alcohol related effects may be one mechanism by which genetic vulnerability for alcoholism influences decisions regarding alcohol consumption at earlier points on the alcohol use continuum. Thus, sons of alcoholics may not only be at risk for future abuse because of genetic factors, but may also drink because of modest elevations in anticipated reinforcement from alcohol.

It is important to note that expectancies are not simply a function of conditioned drug effects since other studies indicate that some expectancies exist prior to any alcohol consumption (Christiansen, Goldman, & Inn, 1982), change with maturation as well as alcohol experience (Christiansen & Goldman, 1983) and differ as a function of parental modeling (Brown, Creamer, & Stetson, 1987). Further, expectancies can act to mediate drinking behaviors (Brown, Creamer, & Stetson, 1987; Goldman, Brown, & Christiansen, 1987) and predict future alcohol consumption (Brown, 1985; Christiansen, Smith, Roehling, & Goldman, 1989). Thus, even modest differences in expectancies may influence alcohol use patterns.

There are several important differences between the present

study and previous research investigating family history of alcoholism differences in alcohol expectancies. The present investigation used an individual match procedure among relatively high functioning adult males (i.e., college students) rather than comparing younger groups comparable on sociodemographic and drinking variables. Perhaps more importantly a shortened adult AEQ version rather than the adolescent version of the Alcohol Expectancy Questionnaire (AEQ-A) was utilized in the present study. Although there is considerable overlap in item and scale content for the adult and adolescent AEQs (Brown, et al., 1987), the adult form does not contain a separate cognitive and motor enhancement subscale as does the adolescent version. While scales 1 and 2 of the adult AEQ are significantly correlated with the AEQ-A cognitive and motor enhancement scale, differences across instruments limit comparisons with other studies of family history differences in expectancies (Brown, et al., 1987; Mann, et al., 1987). Despite questionnaire differences, the items which best differentiated males with a family history of alcoholism from men with no family history of alcoholism are consistent with differences identified in previous family history AEQ studies. For example, FHP males were more likely to expect alcohol to make them "more coordinated," "..interesting," "..capable of fighting," as well as "...sexier". In the studies noted above (Brown, et al., 1987; Mann, et al., 1987), FHPs obtained higher mean scores on AEQ scales of cognitive and motor enhancement and tension reduction. However, mood change items

were also included as discriminators of FHP and FHN males (e.g., "Drink when feeling mad," "get out of a depressed mood"). Thus, discriminating items from the present study suggest that FHP young adult males expect slightly more reinforcement from moderate alcohol consumption than drinking matched FHN peers and raise the question of whether expectancy differences are limited to cognitive and motor changes or tension reduction domains.

It is noteworthy that differences in AEQ scores were obtained despite the fact that the matched FHP and FHN men have consistently been found to have comparable scores on the Subjective High Assessment Scale in the nondrinking state (SHAS) (see Schuckit,. 1988 for details). The SHAS is a 15 item self report questionnaire measuring a number of alcohol effects relative to one's normal state. Matched FHP and FHN young adult males report similar states prior to alcohol consumption, though they have been found to differ in SHAS scores following moderate alcohol consumption (.75g/kg body weight). The AEQ, which measures anticipated reinforcement from the drug, has only limited overlap in content with the SHAS (e.g., no questions regarding nausea, discomfort, level of intoxication), focuses on effects generally attributed to alcohol rather than effects expected in an alcohol challenge session, and uses a different response format (dichotomous choice versus continuous analogue rating). Thus, even though FHP and FHN young adult males appear to anticipate similar alcohol effects in the laboratory,

expectations regarding the type and degree of alcohol reinforcement associated with usual drinking settings appear to modestly vary.

The present study does not allow for separate evaluation of the relationship of genetic predisposition and exposure to abusive drinking models to alcohol expectancies. Further, the FHP and FHN males may differ in certain drinking history variables which are important to the development of expectancies despite the alcohol consumption matching procedure employed in this study. Even if expectancies differ as a function of family history of alcoholism, longitudinal studies are required to determine whether these expectancies are associated with the development of abusive drinking patterns and alcohol related life problems. Finally, since the Alcohol Expectancy Questionnaire was developed to assess anticipated reinforcement associated with moderate consumption in the general population, it may not tap expectancy domains which optimally differentiate the two samples of focus in the present study.

These limitations not withstanding, the present study provides a more direct examination of alcohol reinforcement expectancy differences among nonalcoholic males in relation to family history of alcoholism. Consistent with previous alcohol expectancy studies, young adult males with a family history of alcoholism were found to expect slightly more reinforcement from moderate levels of alcohol consumption than peers from

nonabusing families. The extent to which expectancies may be useful in understanding the nature of vulnerability for alcohol abuse remains to be explored.

REFERENCES

Begleiter, H, & Porjesz, B: Potential biological markers in individuals at high risk for developing alcoholism. Alcoholism: Clinical and Experimental Research 12: 488-493, 1988.

Brown, SA: Expectancies versus background in the prediction of college drinking practices. Journal of Consulting and Clinical Psychology 53: 123-130, 1985.

Brown, SA, Christiansen, BA, & Goldman, MS: The alcohol expectancy questionnaire: An instrument for the assessment of adolescent and adult alcohol expectancies. Journal of Studies on Alcohol 48: 483-491, 1987.

Brown, SA, Creamer, VA, & Stetson, BA: Adolescent alcohol expectancies in relation to personal and parental drinking patterns. Journal of Abnormal Psychology 96: 117-121, 1987.

Brown, SA, Goldman, MS, Inn, A, & Anderson, L: Expectancies of reinforcement from alcohol: Their domain and relation to drinking patterns. Journal of Consulting and Clinical Psychology 48: 419-426, 1980.

Cahalan, D, & Cisin, IH: American drinking practices: Summary of findings from a national probability sample. Extent of drinking by population subgroups. Quarterly Journal of Studies on Alcohol 29: 130-151, 1968.

Christiansen, BA, & Goldman, MS: Alcohol related expectancies versus demographic/background variables in the prediction of adolescent drinking. Journal of Consulting and Clinical Psychology 51: 249-257, 1983.

Christiansen, BA, Goldman, MS, & Brown, SA: The differential development of adolescent alcohol expectancies may predict adult alcoholism. Addictive Behaviors 10: 299-306, 1985.

Christiansen, BA, Goldman, MS, & Inn, A: The development of alcohol related expectancies in adolescents: Separating pharmacological from social learning influences. Journal of Consulting and Clinical Psychology 50: 336-344, 1982.

Christiansen, BA, Smith, GT, Roehling, PV & Goldman, MS: Using alcohol expectancies to predict adolescent drinking behavior after one year. Journal of Consulting and Clinical Psychology 57: 93-99, 1989.

Connors, GJ, O'Farrell, TJ, Cutter, HSG, & Thompson DL: Alcohol expectancies among male alcoholics, problem drinkers and nonproblem drinkers. Alcoholism: Clinical and Experimental Research 10: 667-671, 1986.

Goldman, MS, Brown, SA, & Christiansen, BA: Alcohol Expectancy Questionnaire. Odessa, Florida, Psychological Assessment Resources, Inc., In Press.

Goldman, MS, Brown, SA, & Christiansen, BA: Expectancy theory: Thinking about drinking. In: Blane, HT and Leonard, KE (Eds). Psychological Theories of Drinking and Alcoholism, New York, Guilford Publications, pp 181-226, 1987.

Mann, LM, Chassin, L, & Sher, KJ: Alcohol expectancies and the risk for alcoholism. Journal of Consulting and Clinical Psychology 55: 411-417, 1987.

Montiero, R & Podany, E: Alcohol expectancies and consumption in parents and their children. Paper presented at the annual meeting of the American Psychological Association, Washington, D.C., 1986.

Moss, HB, Yao, JK & Maddock, JM: Responses by sons of alcoholic fathers to alcoholic and placebo drinks: Perceived mood, intoxication, and plasma prolactin. Alcoholism: Clinical and Experimental Research 13(2): 252-257, 1989.

Schuckit, MA: Subjective responses to alcohol in sons of alcoholics and control subjects. Archives of General Psychiatry 41: 879-884, 1984.

Schuckit, MA: Biological vulnerability to alcoholism. Journal of Consulting and Clinical Psychology 55: 301-309, 1987.

Schuckit, MA: Reactions to alcohol in sons of alcoholics & controls. Alcoholism: Clinical & Experimental Research 12: 465-470, 1988.

Schuckit, MA, Gold, E & Risch, C: Serum prolactin levels in sons of alcoholics and control subjects. American Journal of Psychiatry 144(7): 854-859, 1987.

Southwick, L, Steele, C, Marlatt, A & Lindell, M Alcohol-related expectancies: Defined by phase of intoxication and drinking experience. Journal of Consulting and Clinical Psychology 49: 713-721, 1981.

Tarter, RE, & Edwards, K: Psychological factors associated with the risk for alcoholism. Alcoholism: Clinical and Experimental Research 12: 471-480, 1988.

TABLE 1: Alcohol Expectancy Questionnaire* Scale Scores of Young Adult Sons of Alcoholics and Matched Controls

Expectancy Scales	Sons of Alcoholics Mean (SD)	Sons of Nonalcoholics Mean (SD)
Scale 1: Global Positive Change	6.05 (4.83)	5.09 (4.15)
Scale 2: Sexual Enhancement	1.90 (2.03)	0.90 (1.47) **
Scale 3: Physical & Social Pleasure	6.79 (1.69)	6.56 (1.71)
Scale 4: Assertiveness	5.95 (3.02)	5.21 (3.49)
Scale 5: Relaxation & Tension Reduction	5.24 (2.15)	5.16 (2.01)
Scale 6: Arousal & Power	3.26 (1.84)	2.77 (1.79)

** Significant at $p < .001$

* A 69 item version of the Alcohol Expectancy Questionnaire was used.

TABLE 2: Discriminant Function Analysis of Family History Groups by Alcohol Expectancy Questionnaire Items

STEP	Variable Entered	F to Enter or Remove *	Wilk's Lambda	Standardized Canonical Coefficient
Scale 2				
1	I often feel sexier after I have had a few drinks.	8.76	0.918	0.621
2	I am more romantic when I drink.	5.90	0.892	0.352
Scale 1				
3	I drink when I'm feeling mad.	5.03	0.864	0.501
4	If I'm feeling restricted in any way, a few drinks make me feel better.	4.78	0.832	-0.621
5	Alcohol makes me more interesting.	4.73	0.799	0.441
6	Drinking alone or with one other person makes me feel calm and serene.	4.38	0.780	-0.337
7	After a few drinks, I feel brave and more capable of fighting.	4.15	0.760	0.355
8	Alcohol makes me worry less.	3.94	0.743	-0.371
9	Drinking helps me get out of a depressed mood.	3.75	0.727	0.315
10	I feel more coordinated after I drink.	3.56	0.714	0.256

* Significant at $p < .01$

Figure 1. Expectancy Discriminant Function Scores of Adult Sons of Alcoholics and Matched Controls